

2SC5216

Silicon NPN epitaxial planar type

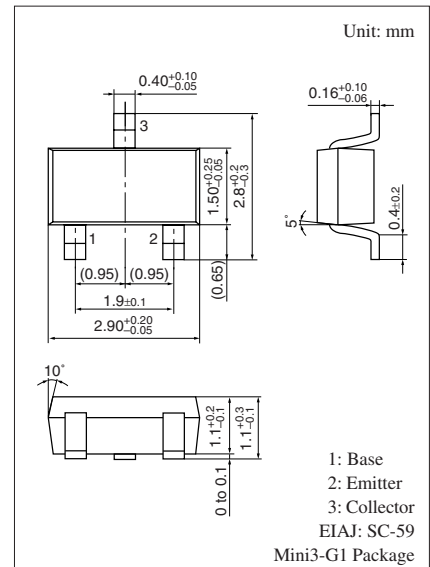
For high-frequency amplification/oscillation/mixing

■ Features

- High transition frequency f_T
- Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	15	V
Collector-emitter voltage (Base open)	V_{CEO}	8	V
Emitter-base voltage (Collector open)	V_{EBO}	3	V
Collector current	I_C	50	mA
Collector power dissipation	P_C	200	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$



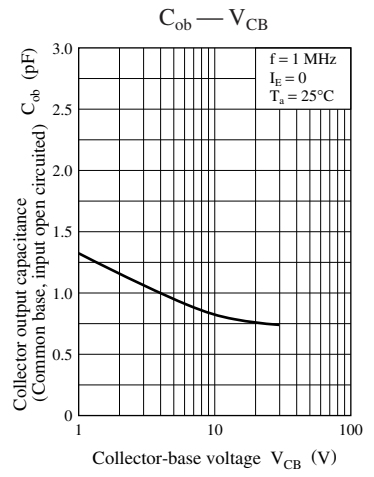
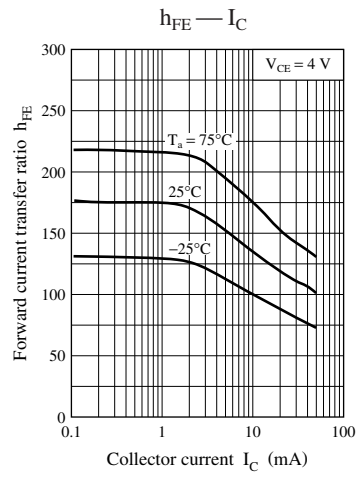
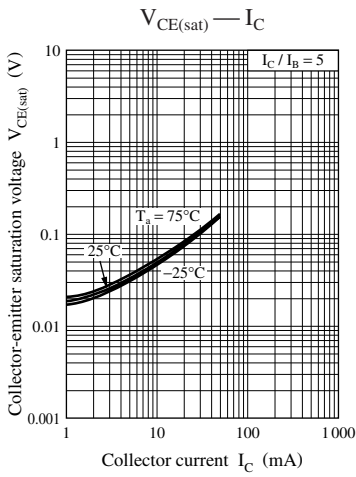
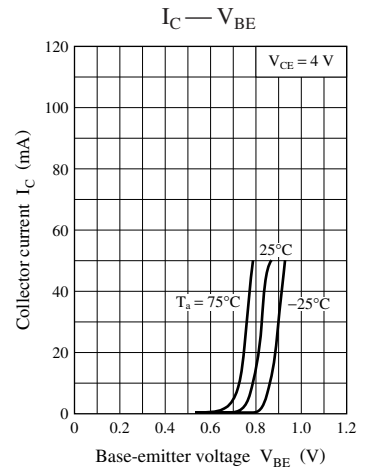
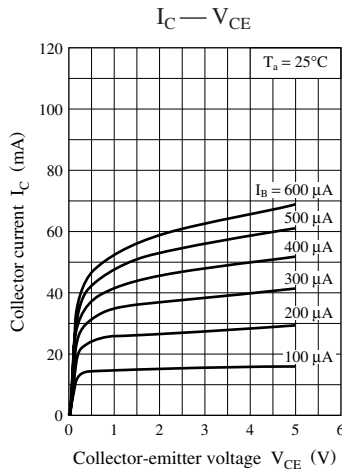
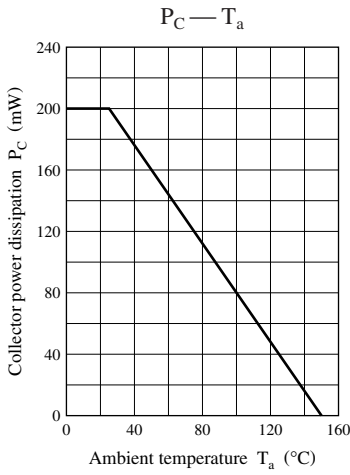
Marking Symbol: FB

■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 100 \mu\text{A}, I_E = 0$	15			V
Base-emitter voltage	V_{BE}	$V_{CE} = 4 \text{ V}, I_C = 2 \text{ mA}$		0.7		V
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 2 \text{ V}, I_C = 0$			2	μA
Forward current transfer ratio	h_{FE}	$V_{CE} = 4 \text{ V}, I_C = 2 \text{ mA}$	100		350	—
h_{FE} ratio *	Δh_{FE}	$h_{FE2}: V_{CE} = 4 \text{ V}, I_C = 100 \mu\text{A}$	0.6		1.5	—
		$h_{FE1}: V_{CE} = 4 \text{ V}, I_C = 2 \text{ mA}$				
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 20 \text{ mA}, I_B = 4 \text{ mA}$			0.5	V
Transition frequency	f_T	$V_{CB} = 10 \text{ V}, I_E = -15 \text{ mA}, f = 200 \text{ MHz}$	0.8	1.3	1.9	GHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$	0.6	1.0	1.4	pF
Reverse transfer capacitance (Common base)	C_{rb}	$V_{CB} = 6 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		0.4		pF
Power gain	G_p	$V_{CB} = 10 \text{ V}, I_E = -10 \text{ mA}, f = 200 \text{ MHz}$	14	18	22	dB

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: $\Delta h_{FE} = h_{FE2} / h_{FE1}$



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